

Augmented Reality in the Oil/Gas/Electric Industry Industry Connections Activity Initiation Document (ICAID)

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1. Contact

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2. Participation and Voting Model

Entity-Based

3. Purpose

3.1. Motivation and Goal

IEEE hosted a workshop in October 2015, exploring the application of augmented reality (AR) solutions in the oil and gas industry. Coupled with interest within the electric power industry, workshop participants expressed an interest in forming an ongoing interest group to facilitate collaboration in identifying requirements, standards needs and other issues, to help enable AR solutions, as well as potentially mixed and virtual reality solutions, that can benefit these industries.

Existing augmented reality devices have not yet achieved a state of readiness for widespread application in the oil, gas, and electric industries. "Heads up Display" type devices are of particular interest, however a variety of issues need to be overcome including ruggedness, wireless connectivity, use case viability and human factors considerations.

While each of the represented industries have some industry-specific interests, there are sufficient commonalities such that aggregating efforts is anticipated to provide a beneficial approach to achieving efficient solutions. Both hardware and software issues can be largely influenced by standards.

Participants in this activity will identify existing standards, and standards in progress that are relevant and valuable to supporting AR in the electric/oil/gas industries, as well as identifying gaps where new standards efforts are recommended – analysis will include not only IEEE standards, but standards and specification available via other SDOs, alliances, etc. Use Cases will also be an area of work activity – development of a collection of use cases that are 1) of mutual interest across electric/oil/gas, 2) of segment specific interest. Prioritize use cases and identify applicable standards and gaps in existing standards

3.2. Related Work

There is related work going on in the Industry Connections Smart Glasses activity, however this proposed activity is more industry specific – coordination will take place with the Smart Glasses group

3.3. Previously Published Material

None

3.4. Potential Markets Served

This activity will focus on benefits for the oil, gas and electric industries, with a focus on end users within these industries. Device vendors will also benefit by better understanding market specific technical needs to consider in meeting these customer needs.

4. Estimated Timeframe

Expected Completion Date: 03/2018

5. Proposed Deliverables

This activity will focus on development of 2 white papers.

Initial Deliverables - 1) summary report on standards landscape relative to AR for electric/oil/gas, with particular interest in Head Mounted/Heads Up Display solutions); 2) Initial draft of a Use Case document - this may be a living document that is regularly updated.

Two white papers will be developed based on developing requirements for use of these type of technology in the industrial environments of the Oil and Gas and Electrical Grid.

Where standards needs are identified, project authorization requests (PARs) may also be developed as applicable.

6. Funding Requirements

No additional funding requests are anticipated for services beyond the standard services provided for IC programs. Activity members will provide any needed support for hosted meetings, marketing activities that exceed basic IC support.

7. Management and Procedures

7.1. IEEE Sponsoring Committee

The IEEE Industrial Applications Society will sponsor this activity, with additional sponsorship by the IEEE Digital Senses Initiative

Has an IEEE sponsoring committee agreed to oversee this activity?: Yes

Sponsoring Committee Name: IEEE Industrial Applications Society

Chair's Name: Mark Halpin
Chair's Email Address: halpism@auburn.edu

IEEE Digital Senses Initiative
Chair/Contact: Yu Yuan
Email: y.yuan@ieee.org

7.2. Activity Management

The activity will be managed by an executive committee as defined in the activity's policies and procedures.

7.3. Procedures

Will use the baseline Industry Connections Activity Policies and Procedures.

8. Participants

8.1. Stakeholder Communities

Representatives of the oil, gas and electric utility industries, along with suppliers of augmented reality products. Initial interested stakeholders include:

Electric Power Research Institute (EPRI)
Shell
BP
Exxon Mobil
Vuzix
GuardHat
WearNext
Atheer
Augmate
APXlabs
Accenture
GNOSYS
FuelFX
Phillips 66

8.2. Expected Number of Participants

15-20

8.3. Initial Participants

Entity	Primary Contact	Additional Representatives
Royal Dutch Shell	Mubarik Choudry	
Electric Power Research Institute	John Simmins	